

Miguel Jimenez

miguel@migueljimenez.co • +1 778 533 0364 •  /jachinte •  /in/jachinte • Curriculum Vitae

INDUSTRY EXPERIENCE

Software Development Positions

Software Engineer Intern at SAP (Remote)

May to Aug 2020 | Montreal, Canada [Java](#) [HTML](#) [CSS](#) [JavaScript](#) [Docker](#) [Hybris](#) [Solr](#) [CI/CD](#)

- Successfully resolved long-standing issues with the Windows configuration with minimal directions and little experience with the code base
- Followed SAP's agile methodology framework with good performance with respect to source code quality and overall expectations of the team
- Was recognized as a self-starter and hard-working member of the team with initiative to take on additional tasks to help the team succeed
- Contributed to complex front-end and back-end tickets and successfully met deadlines, always solving more tickets than originally assigned

Software Developer at SQL Soluciones Informáticas

Jul 2009 to Dec 2010 | Cali, Colombia [PowerBuilder](#) [PHP](#) [PostgreSQL](#) [HTML](#) [CSS](#) [JavaScript](#)

- Developed content management site for documentation and video tutorials, increasing customer satisfaction and supporting a market expansion
- Recorded and edited 90+ training videos
- Deployed and managed the corporate website, customer support portal, and online store using [Joomla!](#) and [Drupal](#)
- Designed the user interface of new software components and improved the user experience and interface of existing ones

Software Development Consulting

Edurita, Kubernetes Administration (Remote)

Aug 2020 to Apr 2022 | Victoria, Canada [Kubernetes](#) [Docker](#) [CI/CD](#) [R](#)

- Designed the team's roadmap to adopt continuous delivery and trained them in cluster capacity planning, testing, containers, among others
- Setup the development infrastructure in virtualized servers and kubernetes clusters, including monitoring, configuration and deployment
- On-call support to troubleshoot and resolve issues with the Docker build, and the development, testing, staging and production environments

Talentum, Senior Software Development (Contract / Remote)

Oct to Dec 2021 | Cali, Colombia [Keycloak \(SSO\)](#) [NodeJS](#) [Loopback](#) [NextJS](#) [Docker](#) [CI/CD](#) [Kubernetes](#) [Helm](#)

- Configured, extended and deployed an open source identity provider for single sign on solutions, using Docker, Helm and Kubernetes
- Integrated the OpenID authentication strategy into Apache SuperSet, and back-end and front-end projects developed in NextJS and LoopBack
- Advised the development team on testing and deployment practices

Carvajal Espacios, Web Software Development

Nov 2015 to Jun 2016 | Cali, Colombia [Play! framework \(Java\)](#) [Spring Data JPA](#) [Hibernate](#) [PostgreSQL](#) [HTML](#) [CSS](#) [JavaScript](#)

- Developed a Java web application using Play! framework for the purchasing department to manage raw material catalogs and suppliers as well as material search statistics. As part of the development, designed the database relations and integrated a charting library into the application.

Laboratorios LaFranco!, Web Software Development

Jan to Dec 2015 | Cali, Colombia [C#](#) [ASP.NET MVC](#) [Entity Framework](#) [MS SQL Server](#) [NodeJS](#) [HTML](#) [CSS](#) [JavaScript](#)

- Developed a web application for the purchasing department to create online auctions and invite partner suppliers to bid.
- Implemented a Node.js server to handle live bids through WebSockets and an ASP.NET MVC web app using the Entity Framework.

SQL Soluciones Informáticas, Software Development (Junior)

Jan to Dec 2012 | Cali, Colombia [C#](#) [ASP.NET MVC](#) [Entity Framework](#) [MS SQL Server](#) [HTML](#) [CSS](#) [JavaScript](#)

- Developed an information system for a premier trolley service for ticket management, printing and selling. Furthermore, advised the customer on hardware and software purchasing and technical decision making.

Patents

- Two-Way Synchronization of Infrastructure-as-Code Templates and Instances—Patent Reference P202006693US01. Patent Application Filed. Joseph Paul Wigglesworth, **Miguel Jimenez**, Gabriel Tamura, Hans Albert Muller, Ian Fraser Watts, Hugh Edward Hockett. March 2022.

EDUCATION

Ph.D. in Computer Science

University of Victoria, Canada • Spring 2022

M.Sc. in Software Engineering

Universidad Icesi, Colombia • Summer 2016

B.E. in Software Systems Engineering

Universidad Icesi, Colombia • Spring 2014

SKILLS

- **Technical Skills:** Web Programming, Architecture Design, Containerized Applications, Continuous Delivery, Cloud Computing, Infrastructure as Code, Language Engineering, Software Deployment, Object-Oriented Programming, Technical Writing
- **Programming and Domain-Specific Languages:** Java, Xtend, JavaScript, TypeScript, Node.js, C#, R, C, Python, ShellScript, CSS, HTML, HCL (Terraform), SQL, \LaTeX
- **Frameworks and Libraries:** Micronaut, Spring, Spark, Play!, Hibernate, JAX-RS / JAXB / Jackson, ASP.NET, Entity Framework, Xtext, React.js, Next.js, Webpack, Babel, Storybook

RESEARCH EXPERIENCE

Graduate Research Assistant | Rigi Research Group

Aug 2016 to Apr 2022 | University of Victoria, Canada

Java Gradle Maven Xtend EclipseXtext EclipseEMF OpenStack VMware vSphere Infrastructure-as-Code Terraform R OpenAPI Git

- Filed a patent application
- Runner-up for IBM CAS Project of the Year among 55 projects
- Runner-up for IBM CAS Student of the Year among 124 graduate students
- Published 13 refereed journal, conference and workshop papers on Software Deployment, Continuous Experimentation, and DevOps
- Presented 15+ contributed and invited talks / posters
- Participate in industry collaborative projects with IBM as a lead student, including **Reverse Engineering Deployment Specifications from Running Systems** and **Cognitive IoT Recipe Maven**
- Implemented a proof of concept middleware to support the automated evolution of Infrastructure-as-Code specifications based on run-time adaptations to a cloud system running on VMware vSphere and OpenStack
- Designed and developed of a conversational agent for the smart kitchen based on user, fridge and store contexts
- Implemented proof-of-concept applications, including a **ReactJS** web application for a smart recipe recommender and an **Android** application for the management of dietary restrictions

Graduate Research Assistant | i2T/DRISO Research Group

Jan 2014 to Aug 2016 | Universidad Icesi, Colombia

Java JEE Maven EclipseXtext RabbitMQ ElasticSearch InfluxDB FraSCaTi Git SVN

- Published 1 refereed journal paper and 2 refereed conference papers
- Participate in industry collaborative projects with Carvajal Tecnología y Servicios as a young researcher, including **Processing of Large and Complex XML Documents** and **Context-Driven Route Optimization for Home Health**
- Participated in technology transfer activities to adapt the asymmetric traveling salesman problem with time windows to Carvajal's health product
- Developed **Amelia**, a domain-specific language (DSL) to automate the configuration and deployment of more than **300** experiment trials. The language addressed the following challenges: variability in architectural configurations, dependency management, coordination control, modularity and composability, reusability and extensibility
- Developed **PaSCAni**, a DSL to specify, generate and deploy performance monitors to introspect service-oriented applications at run-time
- Managed the computing resources of the DRISO research group's computing grid (15 physical machines)

Research Assistant Intern | i2T/DRISO Research Group

Jun to Dec 2013 | Universidad Icesi, Colombia

Proposed and implemented various component-based strategies in **Java** for the matrix chain multiplication problem and conducted quantitative experiments to test their scalability

GRADUATE TEACHING

Graduate Teaching Assistant | University of Victoria

Sep 2016 to May 2018 | Victoria, Canada

C Java Maven Shell script ReactJS ElectronJS NodeJS Git Docker

- Held the following teaching positions:
 - Lead Graduate Teaching Assistant for Fundamentals of Programming with Engineering Applications. Falls 2016 - 2018
 - Graduate Consultant at the Assistance Centre in Computer Science. Spring 2018
 - Graduate Teaching Assistant for Data Structures. Fall 2016
- Lectured weekly labs and assisted students with programming and lab assignments
- Tutored students and assisted them with programming assignments in one-on-one sessions for 1st, 2nd, and 3rd year courses
- Co-led weekly meetings and developed teaching material and quizzes
- Developed **examgen**, a program to generate examinations along with their solutions from a **YAML** input file. The resulting files are rendered to either **LaTeX** or Moodle. Examgen allowed us to stop printing **2800** quizzes and reduced marking time by **30h** per term
- Developed **grade-buddy** to assist teaching assistants and professors in automating the marking of programming assignments
- Developed an **installation assistant** to ease the installation of CLion and its dependencies on Windows, Mac, and Linux
- Deployed and managed an online platform to host and mark programming assignments

SELECTED PROJECTS

jQuery.Stacky github.com/jachinte/jquery.stacky

249 Stars / 22 Forks JavaScript jQuery npm bower require.js SASS

Stacky makes it easy to create UIs with panels that open horizontally using jQuery.

jQuery.SecretNav github.com/jachinte/jquery.secretnav

73 Stars / 14 Forks JavaScript jQuery npm bower require.js SASS

Push menu plugin that slides out an off-canvas navigation from the edge of the screen.

SELECTED TALKS

- **4 Pathways to Autonomic Software Evolution Through Digital Twin**—Proactive AI/ops Workshop
- **Run-time Self-Evolution and Self-Adaptation for Smart Software Systems**—IBM CAS Spotlight
- **Designing Run-time Evolution for Dependable and Resilient Cyber-Physical Systems**—CASCON 2021